

Claims

1. A liquid crystal display device having a liquid crystal display panel and a backlight unit disposed in opposition to a liquid crystal display part of the liquid crystal display panel,

the backlight unit being divided into a plurality of subunits capable of being individually adjusted in brightness,

the liquid crystal display part being divided into pixel blocks which are surface portions opposed to the respective subunits,

the liquid crystal display device comprising:

first means for calculating a highest brightness from display data inputted to individual pixels in each of the pixel blocks; and

second means for adjusting, according to the magnitude of the highest brightness of each of the pixel blocks calculated by the first means, a brightness of a corresponding one of the subunits opposed to the respective pixel blocks.

2. A liquid crystal display device according to claim 1, wherein the backlight unit has a construction in which a plurality of light-emitting elements are arranged on a surface opposed to the liquid crystal display panel.

3. A liquid crystal display device according to claim 1,

wherein the backlight unit has a construction in which a plurality of light-emitting diodes are arranged on a surface opposed to the liquid crystal display panel and the light-emitting diodes include light-emitting diodes of three kinds which respectively emit red, blue and green lights and are disposed adjacently to one another, color mixing means being provided between the backlight unit and the liquid crystal display panel.

4. A liquid crystal display device according to claim 1, wherein the backlight unit is divided into a plurality of subunits arranged in one direction and in another direction intersecting the one direction.

5. A liquid crystal display device according to claim 1, wherein the backlight unit is divided into a plurality of subunits arranged in one direction.

6. A liquid crystal display device having a liquid crystal display panel and a backlight unit disposed in opposition to a liquid crystal display part of the liquid crystal display panel,

the backlight unit being divided into a plurality of subunits capable of being individually adjusted in brightness,

the liquid crystal display part being divided into pixel blocks which are surface portions opposed to the respective subunits,

the liquid crystal display device comprising:

first means for calculating display data indicative of a highest brightness from display data inputted to individual pixels in each of the pixel blocks;

second means for increasing a gray scale level of the display data inputted to each of the pixels of each of the pixel blocks, according to the highest brightness of the corresponding one of the pixel blocks calculated by the first means; and

third means for decreasing, according to the highest brightness of each of the pixel blocks calculated by the first means, a brightness of the corresponding one of the subunits opposed to the respective pixel blocks.

7. A liquid crystal display device according to claim 6, wherein the magnitude of increase of the gray scale level of the display data by the second means is adjusted between white display and black display according to the brightness value of the highest brightness.

8. A liquid crystal display device according to claim 6, wherein the backlight unit has a construction in which a plurality of light-emitting elements are arranged on a surface opposed to the liquid crystal display panel.

9. A liquid crystal display device according to claim 6, wherein the backlight unit has a construction in which a plurality of light-emitting diodes are arranged on a surface

opposed to the liquid crystal display panel and the light-emitting diodes include light-emitting diodes of three kinds which respectively emit red, blue and green lights and are disposed adjacently to one another, color mixing means being provided between the backlight unit and the liquid crystal display panel.

10. A liquid crystal display device according to claim 6, wherein the backlight unit is divided into a plurality of subunits arranged in one direction and in another direction intersecting the one direction.

11. A liquid crystal display device according to claim 6, wherein the backlight unit is divided into a plurality of subunits arranged in one direction.

12. A liquid crystal display device having a liquid crystal display panel and a backlight unit disposed in opposition to a liquid crystal display part of the liquid crystal display panel,

the backlight unit being divided into a plurality of subunits capable of being individually adjusted in brightness,

the liquid crystal display part being divided into pixel blocks which are surface portions opposed to the respective subunits,

the liquid crystal display device comprising:

first means for extracting an arbitrary number of

display data from at least one half of display data of higher brightness among all display data inputted to individual pixels of each of the pixel blocks, and calculating a brightness of each of the pixel blocks from a total brightness or an average brightness according to the extracted display data; and

second means for adjusting, according to the magnitude of the brightness of each of the pixel blocks calculated by the first means, a brightness of a corresponding one of the subunits opposed to the respective pixel blocks.

13. A liquid crystal display device according to claim 12, wherein the first means calculates the brightness according to gray scale levels of the extracted display data.

14. A liquid crystal display device according to claim 12, wherein the first means extracts one or more display data.

15. A liquid crystal display device having a liquid crystal display panel and a backlight unit disposed in opposition to a liquid crystal display part of the liquid crystal display panel,

the backlight unit being divided into a plurality of subunits capable of being individually adjusted in brightness,

the liquid crystal display part being divided into pixel blocks which are surface portions opposed to the respective subunits,

the liquid crystal display device comprising:

first means for extracting an arbitrary number of display data from at least one half of display data of higher brightness among all display data inputted to individual pixels of each of the pixel blocks, and calculating a brightness of each of the pixel blocks from a total brightness or an average brightness according to the extracted display data;

second means for increasing, according to the brightness of each of the pixel blocks calculated by the first means, a gray scale level of each of the display data inputted to the respective pixels of the pixel block itself; and

third means for decreasing, according to the brightness of each of the pixel blocks calculated by the first means, the brightness of a corresponding one of the subunits opposed to the respective pixel blocks.

16. A liquid crystal display device according to claim 15, wherein the first means calculates the brightness according to gray scale levels of the extracted display data.

17. A liquid crystal display device according to claim 15, wherein the first means extracts one or more display data.